

CHAPTER 25

OPERATION OF MOTOR VEHICLES ON AIR FORCE FLIGHT LINES (FOR AIR FORCE ONLY)

Motor vehicles operating on the flight line are necessary to normal operations and maintenance. However, they present a clear and possible danger, both to aircraft and ground personnel. Carelessness, haste, and disregard of existing safety standards by flight line vehicle operators are inexcusable and are primary sources of aircraft collisions and personnel injury. This chapter discusses applicable directives covering flight line vehicle traffic.

NOTE: For the purpose of this chapter, the term “flight line” includes runways, taxiways, aircraft parking ramps, hangars, and associated maintenance/-servicing areas where aircraft may be encountered, excluding aircraft on permanent static display.

AUTHORIZATIONS

Only operators and vehicles designated by the installation chief of airfield management, as prescribed in this manual and AFR 55-48, will be given access to the flight line. Before driving on the flight line, these operators will be given special instructions on standard flight line traffic controls and tower signals, advised of the particular hazards involved, and tested to ensure the instructions are understood. These operators will complete local flight line drivers' familiarization training and possess proper documentation authorizing flight line driving.

The individual's commander will certify on AF Form 171 (Request for Driver's Training and Additions to US Government Motor Vehicle Operator's Permit) that the individual has attended the flight line driving familiarization program. Certification of completion will be entered on the operator's record, AF Form 483 (Certificate of Competency).

No other person will be allowed to operate a vehicle on the flight line except for specified short

periods and only by temporary written permission and instruction of the installation chief of airfield management as prescribed in AFR 55-48. Permits for driving on flight lines will be kept to a minimum, consistent with operations requirements.

The installation chief of airfield management should periodically review the instructional material being presented to potential flight line vehicle operators to ensure that the material is current.

Vehicle operators performing on-the-job training (OJT) for flight line duties will not operate a vehicle within 50 feet of aircraft. This restriction does not apply to fire fighting vehicles and equipment, OJT operators who are towing aircraft, loading/unloading materials-handling equipment (MHE), and aircraft-servicing vehicles. In all cases, drivers on OJT must be qualified to operate the vehicle, and the qualified instructor must accompany him.

FLIGHT LINE SAFETY PRECAUTIONS

Careful attention and strict adherence to flight line safety precautions will prevent accidental damage to aircraft and possible injury to both flight and ground personnel. Bicycle operators on the flight line will also conform to these measures. Observe the following precautions at all times when operating vehicles on the flight line:

- Do not drive vehicles within 10 feet of a parked aircraft, except when the aircraft is being serviced, loaded, or off-loaded. Then use spotters to guide the vehicle's approach to the aircraft. Never drive vehicles under any part of the aircraft. Also, do not back or drive vehicles forward directly toward any aircraft, except as authorized in certain loading, unloading, or fueling operations. In these cases, place pre-positioned wheel chocks between the aircraft and the approaching vehicle to keep vehicles from striking the aircraft. Post guides as a required

safety measure. Keep chocks in position until vehicles leave from within the 10-foot safety distance requirement. When parked on the flight line, do not point vehicles directly toward an aircraft. Chock all powered vehicles and all equipment mounted on wheels that do not have an integral braking system when left unattended on the flight line. Leave vehicles unlocked with keys in the ignition when parked on the flight line.

CAUTION

All vehicles must approach parked aircraft with the driver's side of the vehicle toward the aircraft.

- For maximum safety, do not park or drive any vehicle closer than 25 feet in front or 200 feet to the rear of any aircraft when engines are operating or are about to be started. Vehicles parked at the side of the aircraft will be located clear of the wing tips and will be clearly visible to personnel in the aircraft cockpit.
- Under no circumstances will vehicles stand in front of, or drive into, the path of taxiing aircraft except "guide" or "follow me" vehicles. No vehicle will be driven between the aircraft and the "follow me" guide.
- Operators must be particularly cautious when they must drive across runways. They will completely stop at the runway holdline (two yellow parallel stripes painted on the taxiway surface). This marking is normally at least **100 feet from the runway edge**. Installation airfield management officers will survey vehicle runway crossing procedures annually to ensure that flight safety is not being compromised. If runway crossing conditions require it, traffic signals, electrically controlled from the tower, will be installed.
- All flight line vehicles will fully stop before they enter or cross a taxiway. Before proceeding the operator will determine visually that the way is clear.
- Vehicles on the flight line are a major source of foreign objects that damage aircraft tires and are ingested into jet engines with disastrous results. Before airfield operations, operators will ensure all equipment carried on their vehicles is properly stowed and secured and the vehicles are inspected for objects that could damage aircraft. When dual-wheeled vehicles are operated on unpaved surfaces, they frequently pick up rocks between the tires. Operators will stop when reaching the airfield pavement and remove any rocks that are wedged between the tires or treads.
- A serious mishap potential exists when vehicles are operated in the path of radio beams used for aircraft navigation. Flight line vehicle operators will be instructed on the location and necessary precautions to be taken when operating near such equipment.
- General-purpose vehicles will not tow compressors, auxiliary power units, and similar equipment unless properly equipped with hitches designed for that purpose. Tugs or other vehicles with suitable trailer hitches will normally be used. Equipment will never be towed faster than 15 MPH. Safety chains will not be required on aerospace ground equipment (AGE). Pintle hook safety pins will be used in all pintle hook towing operations. Vehicle and wheeled equipment that do not have integral braking systems, when parked within 25 feet of any aircraft, will have one rear wheel chocked fore and aft.
- Except in unusual places, general-purpose vehicles will not operate at a speed greater than 15 MPH while on the flight line. Special-purpose vehicles will not exceed 10 MPH. No vehicle will operate in excess of 5 MPH when near aircraft. Aircraft will not be towed at speeds greater than 5 MPH at any time. During emergencies, fire and crash equipment and ambulances may exceed speed limits with prudence only when personnel and property are not endangered. Drivers will stop when emergency vehicles are seen or heard.
- Headlights shining toward a moving aircraft at night will be turned off immediately so the

pilot will not be blinded or his night vision affected. The vehicle's parking lights will be turned on so its position will be known. The headlights will remain off until the aircraft is out of range. During hours of darkness or inclement weather, all motor vehicles will normally use emergency warning flashers (directional lights front and rear) when parked on the airfield's aircraft movement areas. Unit commanders may waive this requirement at locations where aircraft parking ramp lighting is otherwise ample or when vehicles are parked within clearly designated areas within the unit's own ramp or in any other areas that have been coordinated with the airfield manager.

- Passengers in or on government vehicles will be particularly cautious. They will remain seated while the vehicle is moving and keep their arms and legs within the vehicle body. Passengers will not ride on tugs or towing vehicles unless a suitable seat with back and side guard is installed. They will not ride on any part of moving equipment not designed especially for passengers. Passenger-carrying vehicles will stop only at the side of aircraft when actually loading or unloading personnel.
- When the driver's seat is vacated, turn off the ignition, set the brakes, and place the gear lever in reverse gear. Use park if the vehicle has automatic transmission.
- Use chocks to secure all vehicles and wheeled equipment that do not have an integral braking system when they are left parked unattended on the aircraft parking ramp.

Aircraft-servicing support vehicles that require the vehicle engine to operate as the power source for auxiliary components may be left unattended while the engine is running. When the driver's seat is not occupied set the parking brake, place the transmission in neutral or park, and chock the rear wheels. Applicable equipment includes lavatory-servicing trucks, vehicle-mounted aircraft baggage, belt conveyors, water tank trucks, truck-mounted aircraft baggage, truck-mounted air conditioners, fleet-sinking high-lift trucks, refuelers, ambulances, and staircase trucks.

Emergency vehicles that must remain in operation at the scene of an emergency may be parked with the engine running, the parking brake set, the transmission in neutral or park, and the rear wheels chocked when the driver's seat is not occupied.

AGE-towing vehicles may be placed in neutral and left running while the driver completes hookup operations. This facilitates movement of the AGE-towing vehicle by hand to align pintle and tongue. Drivers must shut off the vehicle, set the parking brake, and place the vehicle in park or reverse if they do not drive off with the AGE equipment immediately following hookup.

CONTROL TOWER SIGNALS

Tower personnel control all vehicles operating on the flight line. Vehicle operators will observe and obey their light signals and radio instructions. Control tower light signals will be posted in plain view of vehicle operators on either the dash panel or other appropriate location.

The following light signals flashed from the control tower are designed to control flight time vehicle traffic:

- Steady green light – clear to cross.
- Steady red light – stop. Do not move vehicle
- Flashing red light – clear runway/taxiway.
- Flashing white light – return to starting point.
- Red and green light – general warning. Exercise extreme caution.

“FOLLOW ME” VEHICLES

“Follow me” vehicles used to guide aircraft will be equipped with signs easily visible at night reading STOP and FOLLOW ME. They should also be equipped with two-way radio facilities for communication on control tower frequencies. When approaching the parking spot, the “follow me” vehicle operator should illuminate the stop signal, move the vehicle from the intended path of

aircraft travel, and position it laterally, clear to the aircraft wing tip. The marshal, who may be the vehicle operator, will then guide the aircraft to the parking spot using marshaling signals contained in applicable Air Force directives. To accommodate the optimum safe taxiing speed of aircraft, guiding "follow me" vehicles can exceed the normal 15 MPH flight line speed limit. Tugs will not be used as "follow me" vehicles at any time.

REFUELING VEHICLES AND SERVICING EQUIPMENT

Operators of vehicles and servicing equipment will approach the aircraft so that the operator's side is adjacent to the aircraft. At no time, except in certain backing operations, will you drive your vehicle or equipment directly toward the parked aircraft. A sudden brake failure could result in collision. Where backing is absolutely necessary in the approach to aircraft, post a guide and place chocks to prevent your vehicle from backing into the aircraft. Even with this precaution, do not back toward the aircraft at a speed too fast for the bumper chocks to efficiently stop the vehicle in case of brake failure.

When approaching an aircraft to be fueled or defueled by a truck, the operator will approach the aircraft parallel to the wings (except in instances where single point locations of the aircraft require a different approach). Check with your supervisor for specific instructions. Always remember to leave the vehicle door ajar while servicing operations are performed so that you can move the vehicle more quickly in an emergency.

Stop the fuel-servicing equipment at least 20 feet from the aircraft, upwind if possible, and move into servicing position cautiously upon signal from directing personnel. Keep a distance of 20 feet between the fueling unit and aircraft fuel intake and/or vents. Keep a minimum of 10 feet at all times between the fueling unit and any portion of the aircraft. Check to see that suitable fire extinguishers are in position before beginning fuel transfer operations. When servicing aircraft with vehicles equipped with power takeoff in lieu of a pumping engine, keep a 10-foot minimum clearance between the vehicle and the leading edge of the wing. Do not back these vehicles toward the trailing edge of the wing. Exercise caution to make sure

that the prime mover exhaust system is outside the minimum 20-foot separation distance from the aircraft filler points or vents.

Never drive or park fuel-servicing vehicles under any portion of the aircraft.

TO 00-25-172 has additional guidance on positioning refueling vehicles and servicing equipment for aircraft.

AIRCRAFT-TOWING VEHICLE OPERATOR'S RESPONSIBILITIES AND QUALIFICATIONS

Towing aircraft is, in itself, not a hazardous operation when done properly. Experience has proven that inexperienced personnel and failure to follow established towing procedures contained in applicable rules and regulations usually cause towing mishaps.

As a towing operator, you must operate your vehicle in a safe manner. Follow the instructions your team supervisor issues. Also obey emergency-stop instructions given by any team member.

The OJT operator will receive special towing equipment training in his organization by qualified instructor personnel who are thoroughly familiar with the type of equipment and operating procedures to be performed. The OJT operator will possess a current AF Form 2293 or OF 346 when operating special-purpose vehicles with more than 14,000 GVW. A current AF Form 2296 will be on file in the base driver evaluation section.

An authorized, qualified instructor will be in the towing vehicle when training is conducted. Operators will receive training on each specific type of towing vehicle that they are to operate. Qualifications will be entered on their AF Form 2296 and OF 346. Training will be conducted for each specific piece of equipment towed by pintle hook on/off base. Qualifications will be entered in the appropriate training records.

Vehicle operators will not tow aircraft unless accompanied by a qualified operator in an authorized seated position who is certain that the student has been sufficiently instructed and trained

on the type of towing vehicle being used and aircraft to be moved.

When approaching the aircraft to be moved, the tow vehicle operator will stop at least 50 feet from the aircraft. He will proceed only on specific instruction from the noncommissioned officer in charge (NCOIC) of the towing team. The tow bar will be unhooked from the towing vehicle and moved into the aircraft hookup position by hand. The operator will not exceed a maximum speed of 5 MPH. Before the towing vehicle is unhooked from the aircraft, put chocks in place and set the aircraft brakes.

Towing equipment will not be dispatched to or operated by personnel not having a current operator's permit (properly authenticated for the type of vehicle being requested).

FORKLIFT OPERATOR'S INSTRUCTIONS

The forklift in its various sizes and capacities is the basic piece of aircraft cargo-handling equipment. It is used mainly for moving cargo to and from aircraft and for raising and lowering loads between the ground and the aircraft. Forklifts will be operated at all times only by licensed drivers. They will never be driven faster than 10 MPH on ramps or 5 MPH close to aircraft.

Forklift Maneuvers

When maneuvering forklifts close to aircraft, use a guide to help the driver determine safe clearances. Use bumper blocks placed on ramps to prevent unintentional contact with aircraft. Before lifting **or** lowering a load, completely stop the forklift. At no time will forklift drivers raise or lower a load while moving. Forklifts will never be driven under any part of an aircraft except when the type of aircraft involved requires it. When long distances must be traveled or when bulky loads are carried, the forklift will be driven in reverse so the operator has a less obstructed field of vision. The forks of parked forklifts will be lowered flat on the ground to prevent injury to personnel working or walking in the area. On parked and unattended forklifts, the operating levers will be in neutral, the ignition switched off, and the hand brake set. This will be done whenever the forklift is unattended.

Forklift Operation and Safety

WARNING

Operating forklifts with extension tines will change the center of balance and lessen the weight that can be safely lifted. OSHA standards should be met or a variance to the OSHA standards should be approved before use.

Use the following general guide for safe and efficient operation of forklifts in cargo handling:

- Stay within rated capacity.
- Lift with mast vertical or tilted slightly back, never forward.
- Keep loaded fork tines as low as practicable while moving.
- Do not raise or lower load while traveling.
- Watch rear-end swinging.
- Proceed slowly and cautiously around corners.
- Watch blind corners; signal with horn.
- Select lower gears before descending ramps.
- Avoid sudden stops or starts.
- Do not descend ramps with load in front. Back down slowly.
- Watch overhead clearances.
- For better vision, drive backwards with bulky loads.
- Ensure floor strength is adequate to support both vehicle and load.
- Use care in high-piling watch for falling stock.
- Be careful when handling long lengths of bar stock, lumber, and so forth. Watch swing, and if necessary, use a walking guide.

- Keep load against carriage.
- Keep load balanced laterally.
- Spread forks according to load width.
- Lower heavy loads slowly; stop them slowly.
- Keep clear of loading dock edges.
- Check bridge plates between loading docks, trucks, and cars for sufficient width, strength, and security.
- When loading or unloading highway trucks or trailers, be sure vehicle brakes are set and/or wheels chocked and support vehicle body with jacks or braces if springs are weak.
- Never tilt an elevated load forward except to place it on a stockpile.
- Be sure all objects of irregular shape, including aircraft engines, are securely chained to the forklift frame before being raised lowered, or moved. Normally, place large irregularly shaped objects on pallets for stability before raising or transporting them.
- Do not exceed 5 MPH around aircraft.
- Let only the operator on the forklift.
- Check foot brakes and hand brakes for effective operation.
- Do not load or unload cargo while aircraft is being serviced with fuel or oxygen. (For exception, refer to TO 00-25-172.)
- Keep an adequate fire extinguisher available.
- Have tail stand installed on tricycle-landing gear-type aircraft (ii equipped).
- Have adequate lighting.
- Remove ice and snow from area before loading and unloading or make the area safe by using appropriate materials.
- Use extreme care when operating on loading docks that are wet and slippery.